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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,791	08/19/2003	Anthony A. Gallo	3833-030392 (LDEO-108)	7402

7590 01/05/2006

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Pittsburgh, PA 15219-1818

EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/644,791	GALLO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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1. The 35 U.S.C. 112, first and second paragraphs, rejections are withdrawn due to the more clear denotation of the transition metal oxide of a Group VIA element without the oxyanion. The 35 U.S.C. 102(b) rejection over Japanese Patent No. 10-602229 and 35 U.S.C. 103(a) rejection over Japanese Patent No. 10-602229 in view of Gallo Patent No. 6,432,540 have been overcome by the requirement that the claimed composition is substantially free of phosphorus as supported by page 2, paragraph 8 of the specification. The sole recitation of an amount of aromatic phosphoric ester is the 20 parts by weight shown in Example 1 on page 3, lines 2-3 which is greater than the claimed substantially free of phosphorus language.

The text of section 103(a) of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo Patent No. 6,432,540 and Japanese Patent Nos. 11-269347 and 10-212396 in view of Japanese Patent No. 11-100492.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 11-100492 in view of Gallo and Japanese Patent No. 11-269347.

The rejections are maintained for the reasons of record set forth in the non-Final rejection mailed September 20, 2005. The arguments filed December 22, 2005 have been considered but are unpersuasive.

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2. Gallo, Japanese '540 and '347 establish the presence of tungsten trioxide (Gallo, col. 4, lines 35-37), and molybdenum or tungsten trioxide (Japanese '347 (page 4, paragraph 11, lines 1-6; and Japanese '396, page 2, paragraph 11) as a fire retardant. Japanese '492 is relied upon as a secondary reference teaching the obviousness of further incorporating a melamine cyanurate together with a metal oxide in order to impart solder thermal resistance along with fire resistance (Japanese '492, page 4, paragraphs 22 and 23).

3. A secondary reference need not disclose each and every element of the claims; otherwise it would be applied as a primary reference. Based on the equivalent flame retardant epoxy resin formulations of Gallo, Japanese '347 and '396 along with the secondary reference to Japanese '492, all containing a metal oxide, the motivation to incorporate the melamine cyanurate of Japanese '492 into the blends of the primary references is entirely consistent with the objectives thereof.

4. In the rejection wherein Japanese '492 is applied as a primary reference, the use of metal oxides in general as a flame retarder is set forth on page 2, paragraph 22. Gallo and Japanese '347 acknowledges the flame retardant capacity of tungsten trioxide which is embraced by the metal oxide of Japanese '492. It would have been obvious to employ the tungsten trioxide of Gallo and Japanese '347 as the metal oxide of Japanese '492 in order to improve the moisture resistance (Gallo, col. 1, lines 28-32 and col. 5, lines 49-51) and to optimize the balance between fire retardance and hardenability (Japanese '347, page 4, paragraph, 11, lines 4-5).

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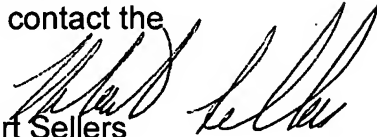
The further suitability of a metal hydroxide does not discount the metal oxide of Japanese '492 which is the basis for the combination of the references.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

  
Robert Sellers  
Primary Examiner  
Art Unit 1712

rs 12/30/2005